

Claims

1. A process for the manufacture of a catalyst for selective hydrogenation of a feed stock comprising

preparing a catalyst support,

5 impregnating the catalyst support with a palladium metal source,

reducing the palladium-impregnated catalyst with a reducing material,

10 without permitting the reduced catalyst to reoxidize, placing the reduced catalyst in a container under a non-oxidizing material, and

15 distributing the prereduced catalyst in the container to a customer while maintaining the reduced catalyst under the non-oxidizing material.

2. The process of Claim 1 wherein the temperature of reduction of the catalyst is from about 50°F to about 1000°F (10°C to 538°C).

3. The process of Claim 1 wherein the non-oxidizing material is selected from the group consisting of carbon dioxide, nitrogen, helium, neon and argon.

4. The process of Claim 1 wherein the non-oxidizing material is nitrogen.

5. The process of Claim 1 wherein the non-oxidizing material is carbon dioxide.

25 6. The process of Claim 1 wherein palladium comprises

from about 0.001 to about 0.028 weight percent of the catalyst, based on the total weight of the catalyst.

7. The process of Claim 1 wherein the catalyst further comprises a metallic additive selected from the group consisting of silver, tin, copper, gold, lead, thallium, bismuth, cerium and alkali metals.

8. The process of Claim 1 wherein the catalyst further comprises a metallic additive selected from the group consisting of silver, gold, thallium and alkali metals.

9. The process of Claim 1 wherein the catalyst material further comprises silver as an additive.

10. The process of Claim 9 wherein the catalyst material comprises from about 0.01 to about 0.02 weight percent palladium, from about 0.04 to about 0.15 weight percent of silver, wherein the ratio of the silver to the palladium is from about 1:1 to about 20:1, and wherein the weight percentages are based on the total weight of the prereduced catalyst.

11. The process of Claim 1 wherein the selective hydrogenation process comprises a front-end hydrogenation process.

12. The process of Claim 1 wherein the selective hydrogenation process comprises a tail-end ethylene purification process.

13. The process of Claim 1 wherein the feed stock comprises a C₂ and C₃ olefinic feed stock.

14 A catalyst prepared by the process of Claim 1.

15 15. A process for the selective hydrogenation of a feed stream comprising

preparing a hydrogenation catalyst by the process of Claim 1,

without further reducing the catalyst, passing a selective hydrogenation feed stream over the catalyst in a selective hydrogenation process.

16. The process of Claim 15 wherein the temperature of the feed stream is from about 35°C to about 100°C.

17. The process of Claim 15 wherein the catalyst further comprises a metallic additive selected from the group consisting of silver, gold, tin, lead, thallium, bismuth, cerium and alkali metals.

18. The process of Claim 15 wherein the catalyst further comprises a metallic additive selected from the group consisting of silver, gold, thallium and alkali metals.

19. The process of Claim 15 wherein the catalyst material further comprises silver as an additive.

20. The process of Claim 15 wherein the selective hydrogenation process comprises a front-end hydrogenation process.

21. The process of Claim 15 wherein the selective hydrogenation process comprises a tail-end ethylene purification process.